UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL
CLEANUP

March 24, 2016

Mr. E. Gilbert Leon Jr.
Earle M. Jorgensen Company
10650 South Alameda
Lynwood, California 90262

Ms. Amy Essig Desai
Farallon Consulting, LLC
975 5th Ave Northwest
Issaquah, Washington 98027

Re: EPA Required Revisions and Modifications to Addendum 1 of the Operations, Monitoring and Maintenance Plan, Basis of Design Report for Jorgensen Forge Early Action Area

Dear Mr. Leon and Ms. Essig Desai:

Enclosed are EPA's required revisions and modifications to EMJ's fourth version of *Addendum No. 1 to the Operations, Monitoring and Maintenance Plan, Basis of Design Report, Jorgensen Forge Early Action Removal Action* (OMMP Addendum No. 1) dated May 22, 2015. EPA's review of this document finds that this fourth version of OMMP Addendum No. 1 continues to lack clear mechanisms which would achieve the monitoring objectives required by the Administrative Settlement Agreement and Order on Consent for the Non-Time Critical Removal Implementation (Settlement Agreement), including its appendices, the Action Memorandum (2011) and the Statement of Work. For example, the Statement of Work requires the OMMP to define objective criteria that determines if maintenance is necessary based on monitoring results. EPA found no such criteria in the fourth version of OMMP Addendum No. 1. EPA requests a meeting with EMJ to identify an acceptable path forward to ensure that the required fifth version of OMMP Addendum No. 1 will meet the requirements of the Settlement Agreement.

The EPA is very concerned that because of the extensive and multiple revisions OMMP Addendum No. 1 has required over time, the site still lacks the baseline data required by the Action Memorandum and Statement of Work. This is especially concerning in light of the backfill surface contamination above the removal action levels documented within the RAB by data from both The Boeing Company and EMJ.

ADDENDUM No. 1 TO THE OPERATIONS, MONITORING, AND MAINTENANCE PLAN, BASIS OF DESIGN REPORT – EPA MODIFICATIONS AND REQUIRED REVISIONS TO THE FOURTH VERSION DATED MAY 22, 2015

1) EMJ is required to revise OMMP Addendum No. 1 to quote the Settlement Agreement or its appendices verbatim wherever OMMP Addendum No. 1 references the Settlement Agreement or its appendices. For example, EMJ must revise the "purpose" of the EMJ Non Time Critical Removal Action (NTCRA) to be consistent with the Section VIII Paragraph 17 of the Settlement Agreement:

   The primary objective of this removal action is to significantly reduce the potential risk to human health and the environment resulting from potential exposure to contaminants present at the Jorgensen Forge EAA.

   In the event of any conflict between OMMP Addendum No. 1 and either the Action Memorandum or the main text of the Settlement Agreement, the Action Memorandum or main text of the Settlement Agreement, as the case may be, shall control.

2) EPA modifies OMMP Addendum No. 1 by removing all references to the NTCRA as "complete" wherever this term or a synonym occurs in OMMP Addendum No. 1 and its attachments.

3) EMJ is required to revise the timeframe for performance of the monitoring to account for the ongoing revision and review of OMMP Addendum No. 1. EPA modifies OMMP Addendum No. 1 to include, at a minimum, sampling in 2016, 2017, 2018, 2019 and 2020. EPA further modifies OMMP Addendum No. 1 throughout to state that, in the event a screening level value is exceeded (groundwater, stormwater water or solids), EMJ is required to extend the monitoring period and/or frequency to further evaluate recontamination potential from the upland groundwater and stormwater discharges to the site, as well as evaluate effectiveness of any efforts to control the source or pathway of contamination to the RAB.

4) The Action Memorandum requires that "baseline groundwater monitoring, during and after removal action, is required to demonstrate that the bank action adequately removed contaminants which cause the groundwater to exceed RvALs". EMJ is relying on data from 2003 to 2011 to define baseline conditions. These data are now over 5 years old. Furthermore, EMJ's groundwater monitoring plan relies on the installation of a new groundwater monitoring well to characterize groundwater at the site. EMJ is required to compile any recent groundwater data which may be available from Jorgensen Forge Corporation and The Boeing Company that may be used to define "baseline conditions" at the site. Baseline conditions will not be established

until EMJ has collected and analyzed groundwater data as required under the future final OMMP Addendum No. 1.

5) EPA finds that use of the NPDES stormwater data are not sufficient for establishing "baseline" conditions of Jorgensen Forge Corporation's effluent discharge to the surface sediments within the EMJ Removal Action Boundary (RAB) for the purposes of the NTCRA. The data in the existing permit are not designed to, nor do they provide, an adequate characterization of the effluent for the purposes of assessing recontamination of the in-water sediments. For example, while EMJ notes the Jorgensen Forge Corporation stormwater TSS data for sediments, EMJ does not describe what the PCB concentrations are within those sediments, or how those sediments deposit in the RAB. Furthermore, EMJ does not describe Jorgensen Forge Corporation's stormwater bypass system or the frequency of those flows, contaminants in that bypass, etc.

   In order to establish baseline conditions for the stormwater discharge at the site; EMJ is required to model the stormwater effluent discharge from the Jorgensen Forge Corporation facility to the site to determine the deposition of sediments and the effluent to the RAB. EMJ is further required to have stormwater sampling include details of any bypass discharges of untreated effluent and the frequency of such bypass discharges that occur to the Site.

6) Section 1.0 INTRODUCTION

   EMJ is required to revise all references to the Settlement Agreement to also include references to all of the appendices.

7) Section 3.1 GROUNDWATER BASELINE DATA AND GROUNDWATER CONCEPTUAL SITE MODEL

   EPA modifies the first sentence of this section (p. 3-1) to read:

   The analytical results for groundwater samples collected from monitoring wells on the Jorgensen Forge Corporation Facility between 2003 and 2011 provide a robust groundwater data set, and include analysis of groundwater for the COCs for sediments defined in the RAB.

   Consistent with item No. 4 above, EPA modifies this section by striking the following sentence from p. 3-1:

   The baseline groundwater conditions confirm that COCs in groundwater did not exceed the screening levels applicable at the time, with the exception of occasions when the analytical results were either false, attributed to off-site sources, or representative of natural background conditions.

EPA modifies this section by striking the following sentence from p. 3-2:

Based on observed groundwater conditions, the potential for future leaching of chemicals in soil to groundwater is low.

8) Section 3.2 STORMWATER AND SOLIDS BASELINE DATA

Consistent with EPA item no. 5, EPA modifies this section by removing the following sentence:

Therefore, stormwater data collected monthly at the Jorgensen Forge Facility from September 2014 to the present under the National Pollution Discharge Elimination System (NPDES) permit are representative of post-NTCRA stormwater discharge conditions, and define the stormwater baseline data for this Addendum No. 1.

9) Section 4.0 SCREENING LEVELS

EPA modifies the first sentence of this section to read as follows:

The Settlement Agreement requires that a Long-Term Monitoring and Reporting Plan, or Operation Monitoring and Maintenance Plan (OMMP), be developed to measure initial efficacy and recontamination of the NTCRA. The OMMP is to specify the monitoring activities and potential future additional response actions to ensure that the NTCRA performance standards are achieved.

To meet these requirements, the Settlement Agreement specifies objectives that the OMMP must be designed to achieve, which includes: establishing baseline conditions for assessing the success of the NTCRA; establishing long-term confirmation monitoring requirements after the completion of the NTCRA; and defining objective criteria for determining if maintenance is necessary based on monitoring results.

This section defines the screening levels, for the required groundwater and stormwater monitoring.

EPA modifies the last two sentences of the first paragraph of this section to read as follows:

There are several ongoing pathways for contamination to reach the RAB. Direct discharge of groundwater to sediments, or to the LDW surface water via seeps, is a primary pathway for contaminants from the uplands to reach the LDW. Additionally, leaching of COCs in soil to groundwater is a suspected pathway from the uplands to the LDW. Stormwater discharges from the Jorgensen Forge Corporation facility in to the LDW is another pathway for contaminants to

reach the LDW. More analysis must be performed to fully characterize the effluent being discharged through the stormwater pathway in to the RAB.

EPA modifies the fourth paragraph of this section to read as follows:

An exceedance of a screening level value does not necessarily indicate unacceptable risk. An exceedance of a screening level value indicates that other lines of evidence are to be evaluated, including: the source of contaminant, the migratory pathway of the contaminant to the NTCRA, analysis to determine if the migration of the contaminant(s) to the NTCRA has led to recontamination within the RAB and mechanisms to address the source/pathway.

10) Section 4.2 GROUNDWATER SCREENING LEVELS

EPA modifies the second sentence of this section as follows:

The selected screening levels for COCs in groundwater are based on choosing the most conservative of the recommended values from the following documents: Boeing Plant 2 TMCLs (2011) and Washington State's Aquatic Life Criteria (developed to protect aquatic life, including benthic organisms, from surface water exposure to pollutants). Boeing (2011) relied, in part, on the EPA (2007) Draft Framework for Selecting and Using Tribal Fish and Shellfish Consumption Rates for Risk-Based Decision Making at CERCLA and RCRA Cleanup Sites in Puget Sound and the Strait of Georgia dated August 2007, to calculate TMCLs in accordance with WAC 173-340-720(1)(i).

EPA modifies Table 5 in this section to apply the most conservative (or lowest concentration) of the compared values for each contaminant of concern (COC) as the applicable screening level. This modification revises the screening level criteria for the following COC's: copper (3.1 µg/L), silver (1.9 µg/L), and total PCBs (0.000023 µg/L).

EPA modifies this section by removing the following sentence:

Because the TMCL for total PCBs is lower than the laboratory LOQ, the LOQ is used as the screening level for total PCBs in groundwater.

EPA recognizes that, while the screening levels are set based on protectiveness, there are limitations on methodologies to detect some of the COC's at these lower levels. The EPA modifies this section to require EMJ utilize methods which are able to detect the COC's as near as possible to the screening level concentrations, as practicable.

Regarding the sensitivity of methods, EPA re-evaluated the *Final Source Control Evaluation Report, Jorgensen Forge Facility* (2008), which sets the screening level for PCBs at 0.05 µg/L as the "laboratory achievable average quantitation limit". However, the fourth version of OMMP Addendum No. 1 states that the LOQ for PCBs is 0.09 µg/L. EMJ is required to review this discrepancy and clarify the methodology and LOQ that is used for PCBs.

11) Section 4.3 STORMWATER

EPA modifies several screening level values for copper and silver to reflect the aquatic life criteria values: 3.1 µg/L for copper; and 1.9 µg/L for silver. The methodology used to develop aquatic life criteria is intended to protect a variety of aquatic species, including benthic organisms. As such, a technical basis exists between these values and the monitoring goal of ensuring any water released to the LDW will not result in harmful exposure to benthic organisms, which is one of the stormwater monitoring objectives.

EPA modifies the screening level for total PCBs as 0.000023 µg/L for the same reasons as stated in item no. 10 above.

Similarly, EPA modifies this section by striking the following statement from this section:

Because the TMCL for total PCBs is lower than the laboratory LOQ, the LOQ is used as the screening level for total PCBs in stormwater.

EMJ provides no technical basis as to how the screening levels for stormwater relate to the objective of recontamination of the sediments above the removal action levels (RvALs). This is because there are no data showing the relationship between the in-water concentrations of the COCs to the sediments of the RAB. EMJ is required to propose a mechanism to assess the concentrations of COCs in stormwater that will ensure in-waterway sediment concentrations are at or below the COC RvALs. This proposal must include using the water column data to inform the relationship to the concentration of contaminants within the sediments. This proposal must also include modeling the deposition of the effluent from this outfall and its solids in to the RAB. Additional requirements for this analysis are described throughout this letter.

12) Section 4.4 SOLIDS

EPA modifies all references to "solids" monitoring within this section to monitoring "stormwater solids".

13) Section 5.0 GROUNDWTER MONITORING WELL INSTALLATION

EPA modifies this section to state:

The monitoring well location may be modified in coordination with, and approval by, EPA during field activities based on access considerations and the locations of utilities and equipment.

14) Section 6.0 GROUNDWATER MONITORING AND SAMPLING & Section 6.1 GROUNDWATER SAMPLING PROCEDURES

EPA's March 11, 2015 comment letter required that EMJ "*must ensure that the location and construction (screened intervals) of the shoreline monitoring wells define the spatial distribution of current or future groundwater contamination of the EMJ RAB sediment from the groundwater pathway*." EMJ did not provide a technical explanation that responded to this requirement, despite its May 22, 2015 response to EPA's comments. Additionally, Section 3.1 of the current version of OMMP Addendum No. 1 states that the primary pathways to the sediments from the groundwater are: seeps to surface water to sediments and groundwater directly to the sediments. It is still unclear if monitoring wells are screened and spatially distributed to evaluate these two pathways identified in Section 3.1. EPA reiterates its original requirement, as stated in the March 11, 2015.

The EPA modifies Sections 6 and 6.1 to reflect the new sampling timeframe described in item no. 3. EPA further modifies this section to state that an exceedance of the screening level and/or the in-waterway sediment samples at LTR-1, LTR-2 or LTR-5 above the RvAL will require additional groundwater sampling events beyond the initial timeframe. EMJ is required to revise this section to describe the role of the soil sampling procedures (Section 5.1 of OMMP Addendum No. 1) within the overall groundwater monitoring plan.

15) Section 7.0 STORMWATER MONITORING AND SAMPLING

The current version of OMMP Addendum No. 1 fails to fulfill the following introductory statement of this section:

The stormwater monitoring is designed to meet the objectives defined in the Action Memo by monitoring stormwater effluent ***to confirm that stormwater is not recontaminating sediments of the LDW*** *or causing harmful exposure to benthic organisms* [emphasis added].

As noted in item no. 11, EMJ has not designed a sampling plan that will inform if recontamination of the sediments is occurring via the stormwater pathway. EMJ is required to

revise OMMP Addendum No. 1 to explain how the sampling will be used to assess if recontamination of the sediments is occurring because of the stormwater discharged to the RAB.

EMJ is required to measure the flow of any stormwater that bypasses the stormwater treatment system. EMJ is also required to obtain stormwater grab samples from this bypass system, in addition to the treated effluent stormwater. The stormwater from the bypass system must be analyzed for the COCs, TSS and conductivity. These required revisions must be incorporated throughout OMMP Addendum No. 1 (e.g. Section 7.1 Stormwater Sampling Procedures).

EMJ is required to revise this section to incorporate the new sediment sampling locations associated with Outfall 003 which include the long-term sampling locations: LTR-4, LTR-14, LTR-15, LTR-16, LTR-17, LTR-18, LTR-19, LTR-20, LTR-21, and LTR-22. EMJ is required to make revisions throughout OMMP Addendum No. 1 to reflect these updated surface sediment sample locations where ever the sample location LTR-4 is referenced, including the figures and tables, as well as any attachments.

EPA modifies this section by striking the following sentence from page 7-2:

Data collected from the quarterly and semiannual stormwater sampling outlined within, and the NPDES permit data collected monthly by the Jorgensen Forge Corporation are sufficient to characterize the stormwater discharging from the Jorgensen Forge Facility.

EPA modifies the third paragraph on page 7-2 as follows:

If COCs are not detected at concentrations exceeding the selected screening levels in the stormwater samples (including stormwater solids) collected during the first four quarters, and all corresponding in-water sediment samples outside of Outfall 003 are below the removal action levels, EMJ may submit a written request to EPA that stormwater sampling frequency be reduced to twice per year for two years. EMJ must submit this written request as an Addendum to this document, with supporting information.

EPA modifies the fourth paragraph on page 7-2 as follows:

*If COCs are detected at concentrations exceeding the selected screening levels in stormwater samples (including stormwater solids) collected during the first four quarters, quarterly stormwater sampling will continue for at least another year. Similarly, if COCs are detected within any of the in-waterway sediments outside of Outfall 003 (*LTR-4, LTR-14, LTR-15, LTR-16, LTR-17, LTR-18, LTR-19, LTR-20, LTR-21, and LTR-22) *at concentrations exceeding the RvALs, quarterly stormwater sampling will continue for at least another year.*

Additionally, an exceedance of the stormwater screening levels or corresponding in-waterway sediment samples RvALs will trigger an assessment to determine if the stormwater pathway has recontaminated the in-waterway sediments. This assessment is further described in Section 9.3 Decision Rules and Contingency Response Actions.

EPA modifies the second paragraph of page 7-4 as follows:

Stormwater samples, including stormwater solids, will be collected downstream of the stormwater treatment system. The concentrations of COCs detected in all of the stormwater samples, including stormwater solids, will be compared to concentrations of COCs detected in the sediment samples collected in the vicinity of stormwater discharges from Outfall 003, as defined in OMMP Addendum No. 2. The analytical results for the sediment samples collected from sampling locations defined in OMMP Addendum No. 2 will be compared with the analytical results of the stormwater samples as part of the evaluation of stormwater as a source of contamination of the LDW. Section 9.3 Decision Rules and Contingency Response Actions provides further detail to the full evaluation of stormwater as a source of recontamination to the sediments within the RAB, a requirement of the Settlement Agreement.

16) Section 7.1 STORMWATER SAMPLING PROCEDURES

EPA modifies this section to include conductivity as a sampling parameter for the stormwater sample from the effluent sampling event.

17) Section 8.0 SOLIDS MONITORING AND SAMPLING

EPA modifies this section to be entitled "STORMWATER SOLIDS MONITORING AND SAMPLING".

EPA modifies the paragraph of this section to read as follows:

The monitoring of solids in the stormwater conveyance system is intended to meet the objectives defined in the Action Memorandum by providing sufficient data to assess if stormwater solids are: a source of COCs to the RAB; a source of recontamination to the sediments within the RAB; and/or causing harmful exposure to benthic organisms. The stormwater solids samples will be collected to characterize the stormwater effluent that discharges to the LDW via Outfall 003. Stormwater solids data, along with the stormwater effluent data, will be compared to sediments data collected from the sample locations outside of the outfall described in OMMP Addendum No. 2 (LTR-4, LTR-14, LTR-15, LTR-16, LTR-17, LTR-18, LTR-19, LTR-20, LTR-21, and LTR-22) as part of the assessment to determine if stormwater solids are a source of COCs to sediments in the RAB. Section 9.3 Decision Rules and Contingency Response Actions provides greater detail of the assessment of the stormwater pathway.

18) Section 8.1 SOLIDS SAMPLING PROCEDURES

EPA modifies this section to be entitled "STORMWATER SOLIDS SAMPLING PROCEDURES."

EPA finds EMJ's proposed method for collecting stormwater solids unacceptable as EMJ admits it is unlikely to capture enough stormwater solids to analyze the sample for the COCs. EMJ is required to find an alternate method of collecting a stormwater solids sample that is more likely to result in a sufficient volume of solids that can be analyzed. For example, installing a sediment trap for a sufficient period of time is more likely to collect a sufficient volume of stormwater solids to analyze. Or use a sampling pump (e.g. ISCO sampler) on the effluent port to obtain a sufficient volume of stormwater which can then be filtered to collect the stormwater solids.

Given EMJ's concerns about tidal influence on the stormwater solids sample, EPA has added the sampling requirement of conductivity to assess tidal influence on effluent stormwater samples. The revisions to OMMP Addendum No. 1 must include methods to address the concerns about tidal influence on the stormwater samples, such as installation of a tide gate on Outfall 003 to prevent tidal influence in to the stormwater sample. EPA modifies the second paragraph of this section as follows:

If a sufficient volume of stormwater solids has been collected, the stormwater solids will be analyzed for the COCs. If the volume of stormwater solids collected is insufficient for analysis of all the COCs, the stormwater solids will be analyzed for PCBs only. If the volume of stormwater solids collected is insufficient for analysis of any COCs, including PCBs only, EMJ will continue to attempt collection of stormwater solids and monitor TSS. EMJ will also run models to determine the sediment deposition from the discharge point to the RAB based on the TSS monitoring results and flow data, and will include the data from any bypass stormwater discharge system.

EPA modifies OMMP Addendum No. 1 to remove all references to EMJ discontinuing the collection of stormwater solids data. EPA reiterates that EMJ must collect stormwater solids data in order to fully characterize the nature of the effluent discharged in to the site.

19) Section 9.0 DATA EVALUATION AND REPORTING

EPA modifies this section to state that monitoring reports be submitted to EPA within 45 day of receipt of final validated analytical results for the sampling event. EPA also modifies the last sentence of the first paragraph as follows:

The monitoring reports will, at a minimum, include the information that is described in Section 6, 7, 8 and 9 of the OMMP and requirements specific in the Settlement Agreement and its appendices.

The inclusion of Section 6, 7, 8 and 9 in the OMMP monitoring reports must be reflected in Sections 9.2.1, 9.2.2, 9.2.3. EPA is including Section 9 as part of the OMMP Addendum No. 1 reporting so that the conclusions provided in the report reflect the data evaluation specified in this section.

EMJ modifies this section to update the sampling dates to reflect the revision of years described in item no. 3 above.

EMJ is also required to revise all of Section 9.0 and its subsections to reflect how the data evaluation will occur during those years where groundwater and stormwater data are collected/evaluated without the concurrent in-water sediment data associated with those pathways. EMJ must describe how it will determine if the sampling goals defined in the Action Memorandum and the Settlement Agreement are being met when data are only available from the groundwater/stormwater pathway. See item no. 23 below.

20) Section 9.1 SCREENING LEVEL VALUES

EPA modifies Section 9.1 Screening Level Values as follows:

Screening level values were developed after discussions with EPA and Ecology, review of literature and documents, and evaluation of potentially applicable laws and regulations to define the concentration of COCs that are appropriate as screening levels for sediment quality in the LDW. When use of sediment screening level values was inappropriate, screening level values for surface water quality in the LDW were used. The screening level values for sediment quality were preferentially selected over screening level values for surface water quality, given the focus on sediment quality. Screening level values were established for soil appropriate of aquatic species exposed to groundwater; groundwater as appropriate indicators for sediment quality; and for stormwater and stormwater solids as appropriate for surface water and sediment quality. The screening level values for the COC's are included in Table 5.

21) Section 9.2.1 Groundwater Monitoring

EMJ is required to revise this section to include data and figures of the complete groundwater pathway to the in-water sediments, which includes: soil data collected as 'suspected pathway' to the groundwater; groundwater sampling data compared to the revised screening levels (which must be referenced as "screening level values"- not Boeing Plant 2 TMCLs) and the in-water sediment samples which correlate with the groundwater sampling locations/pathway.

22) Section 9.2.2 Stormwater Monitoring

EPA modifies this section by combining it with Section 9.2.3 Solids Monitoring, thereby effectively compiling the stormwater and stormwater solids data and analysis into one section.

EMJ is required to revise this combined section to include data and figures of the complete stormwater pathway to the in-water sediments, which includes: stormwater solids data results compared to the applicable screening level values (RvALs from Action Memorandum); whole water sampling data compared the screening level values (which must be referenced as "screening level values"- not Boeing Plant 2 TMCLs); flow data; conductivity data and the in-water sediment samples which correlate with the stormwater sampling locations/pathway. This report must also include data about any bypass stormwater sampling data. Finally, this report must include modeling used to assess the deposition of the effluent from the stormwater discharge in to the RAB of the site.

23) Section 9.3 DECISION RULES AND CONTINGENCY RESPONSE ACTIONS

The Statement of Work requires that the OMMP "evaluate the effectiveness of source control" and include "objective criteria for determining if maintenance is necessary based on the monitoring results." EPA finds that this Section 9.3 of OMMP Addendum No. 1 is lacking in defining objective criteria for evaluating the effectiveness of source control or determining if maintenance is necessary. EPA reiterates the requirements of the Statement of Work, which EMJ is required to implement. EMJ is required to develop objective criteria for determining if maintenance is necessary based on the monitoring results for the stormwater and groundwater pathways.

24) Section 9.3.1 Groundwater

In order to determine if maintenance is necessary based on the monitoring results, EMJ is required to revise this section as follows:

- Groundwater data evaluation prepared during the reporting phase must include: soil data, groundwater data, and surface sediment data.
- If the in-water surface sediment data shows an exceedance of the RvAL, EMJ must undertake a thorough evaluation of the soil and groundwater pathway as potential sources of those RvAL exceedances. EMJ is required to revise this section to describe a robust evaluation process of the groundwater pathway, which must include, at a minimum: chemical concentrations; an evaluation of the extent and distribution of all contaminated media above the screening levels; proximity of potential source area to the LDW and LDW sediment data proximity to potential source area(s); site surface conditions; riverbank stability; potential hydraulic connection between groundwater and surface

water and sediments; and estimate of potential chemical loading to the river from the groundwater pathway.

- EMJ is required to describe how this evaluation will be used in consideration of the criteria for determining if maintenance is necessary. EMJ is further required to revise this section to describe potential maintenance actions that could be employed if EMJ's analysis determines that the groundwater pathway is an ongoing source of contamination to the sediments within the RAB.

25) Section 9.3.2 Stormwater and Section 9.3.3 Solids

In order to determine if maintenance is necessary based on the monitoring results, EMJ is required to revise this section as follows:

- Combine the stormwater and stormwater solids analysis in to one section.
- Stormwater data evaluation prepared during the reporting phase will include: stormwater sampling data (effluent and bypass untreated effluent data); stormwater solids data; flow data; conductivity data; in-water surface sediment samples for the 10 locations outside of Outfall 003 as described in OMMP Addendum No. 2.
- If any of the in-water surface sediment data shows an exceedance of the RvAL, or if there is an exceedance of the screening levels for either the effluent or stormwater solids, EMJ must undertake a thorough evaluation of the stormwater pathway as a potential source of the RvAL exceedance. EMJ is required to revise this section to describe a robust evaluation process of stormwater pathway, which must include, at a minimum: chemical concentrations; an evaluation of the extent and distribution of all contaminated media above the screening levels; proximity of potential source area to the LDW and LDW sediment data proximity to potential source area(s); site surface conditions; riverbank stability; modeling of potential loading (water and sediment) to the LDW from the stormwater pathway; and stormwater conveyance management information and data.
- EPA modifies this section by striking the following:

  If one or more of the COCs are detected at concentrations exceeding the selected screening levels in a stormwater sample collected for a sampling event, or if concentrations of COCs exceed the selected screening level in the sediment samples collected from LTR-4 (Figure 1), then the stormwater results will be compared to the Jorgensen Forge Facility NPDES permit benchmark values. If the COCs do not exceed the NPDES benchmark values then no additional response actions will be evaluated. If one or more of the COCs exceed the NPDES benchmark values, then additional measures will be evaluated consistent with the Action Memorandum.

  EMJ does not identify the NPDES permit benchmark values, nor provide a technical basis supporting how these values are related to the goal of evaluating the effectiveness of source control.

- EMJ is required to evaluate the potential for stormwater to contaminate the in-waterway sediments above the RvAL if the screening level criteria for stormwater or stormwater solids are exceeded. EMJ is further required to include modeling sediment deposition from the outfall in to the sediments of the site.
- EMJ is required to describe how this evaluation will be used in consideration of the criteria for determining if maintenance is necessary. EMJ is further required to revise this section to describe potential maintenance actions that could be employed if determined to be necessary by this overall evaluation.

APPENDIX D QUALITY ASSURANCE PROJECT PLAN

26) Section 2.3 QUALITY ASSURANCE/QUALITY CONTROL MANAGER

.

EPA modifies the QA/QC Manager for EPA as "Donald M. Brown." Provide a signature block on the QAPP sign off sheet for an EPA QA/QC Manager.

27) Section 18.0 DATA REVIEW, VERIFICATION, AND VALIDATION

Section 2.5 of the QAPP states that Christine Ransom of EcoChem, Inc. will serve as the primary contract for performance of data validation. However, Section 18.0 of OMMP Addendum no. 1 makes no reference to EcoChem, Inc. in performing data validation, but instead states that the data verification and validation will be performed by Farallon QA/QC Manager, who is identified as Gerald J. Portele, Farallon Consulting, L.L.C.

EMJ is required to revise the QAPP to clarify who is performing data validation, the roles of EcoChem and Farallon in that process and coordination amongst all parties (ARI, EcoChem and Farallon) in performing data review, verification and validation.

28) Table 1 *Quantitative Goals for Groundwater, Stormwater, Solids, and Soil Analytical Data*

The Precision goals between the water and soil/solids appear to be switched. EMJ is required to revise the table to reflect that water duplicates are below 20% RPD and soil/solids are within the 35% RPD range.

29) Table 4 *Groundwater, Stormwater, Solids, and Soil Sampling Information*

The RCRA methods guidance on Organic Analytes (SW-846 Chapter 4, Table 4-1) removed the holding times for PCBs so long as the samples are cooled to < 6° C. EMJ may change the PCB holding time to "none" if it meets the temperature requirements, consistent with SW-846.

CONCLUSION

EMJ is required to submit a revised OMMP Addendum No. 1 within 30 days with the required revisions and modifications detailed in this letter. EMJ is to make no other alterations to OMMP Addendum No. 1 other than the revisions and modifications specified in this letter. For questions from legal counsel regarding EPA's modifications and required revisions to OMMP Addendum No. 1, please contact Richard Mednick at (206) 553-1797 or via electronic mail at Mednick.Richard@epa.gov. For all other questions, please contact me at (206) 553-1774 or via electronic mail at Chu.Rebecca@epa.gov.

Sincerely,

REBECCA CHU

Digitally signed by REBECCA CHU
DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=REBECCA CHU, dnQualifier=0000023859
Date: 2016.03.24 08:59:22 -07'00'

Rebecca Chu
Remedial Project Manager

cc: Miles Dryer, Jorgensen Forge Corporation
Romy Freier-Coppinger, Washington State Department of Ecology
Robert Wright, Washington State Department of Ecology
Glen St. Amant, Muckleshoot Tribe
Alison O'Sullivan, Suquamish Tribe
James Rasmussen, DRCC/TAG
Rebecca Hoff, NOAA
Brian Anderson, The Boeing Company